# China's Water Resources Planning Framework

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1. Water Planning Framework

2. Water Planning Progress

3. Recent Research Results

4. Standards Support

## 1. Water Planning Framework

#### 1.1 Functions and Classification of Planning

Water Conservancy Planning is the blueprint and programme of action for the development of water conservancy, is an important foundation of water conservancy public services and social management, is also an important basis for the arrangement of water conservancy construction, development of systems and policies as well as normalizing water-related affairs.



#### **1.2 Framework**

"Water Law of PRC" and other laws and regulations have established a three-level framework of national, basin and regional water conservancy planning system.



# **1.3 Planning Management Procedure**



- Set up planning compiling plans and determine work tasks
   Conduct planning compilation, deepen research and investigation, strengthen demonstration of programs, innovate planning designs and methods.
- Reinforce expert consultation, pay attention to public participation, implement open planning.
- Normalize the technical reviews of results
- Intensify the connection of planning, ask for opinions of related organizations and local agencies.
- Examine and approve by law at different levels in accordance with authorities.
- Planning Implemen tation
- Public the results timely according to related regulations.
- Organize planning implementation.
- Supervise and examine the current conditions of implementation.
- Assess the implementation and bring forward opinions on planning adjustment and revision.

### 2. Water Planning Progress



2.1 In 1950-1960s The government has carried out a comprehensive integrated planning for major rivers, and the seven river basin planning for control projects has basically formed to provide planning guidance for the large-scale river development and management, water infrastructure has been restored and developed. Water conservancy poverty-stricken conditions in the early days has been changed.





2.2 In the early 1980s, The government has conducted the first National Water Resources Census and Evaluation and planning of water development and utilization, basically identified the amount of surface water resources and its spatial and temporal distribution characteristics, as well as put forward the basic pattern of China's water resources development and utilization.



2.3 In the early 1990s, The government has organized and compiled the integrated planning of the seven major rivers and major tributaries, determined the overall layout of the development and utilization of major rivers. The major rivers have got relatively systematic governance and development, flood control, water regulation and storage capacity has significantly increased.



2.4 Since the 21st Century, The government has organized and compiled a batch of important water conservancy planning, and the water conservancy system has gradually formed, which has provided planning foundation and evidences for large-scale water conservancy construction and water sustainable utilization, water conservancy career has developed comprehensively and rapidly.







During recent 10 years, MWR has organized and conducted more than 200 water conservancy planning compiling works, nearly 60 works has been replied by State Council, and more than 140 works by other departments.

The 10th, 11th and 12th five-year-plan of development of water conservancy

Five-Year-Plan



Focus on key areas and weakness of water conservancy reform and development, Compile and implement a batch of specialized planning

Three Basic Planning National Water Resources Comprehensive Planning Flood Control Planning of Seven Basins Integrated Planning of Seven Basins National Water Resources Comprehensive Planning. The programme has fully figured out the conditions and evolvement patterns of China's water resources and water ecologic environment, scientifically answered the upper limit of water resources development and utilization, the research has also brought up the strategic goals and countermeasures for water resources sustainable utilization.



Flood Control Planning of Seven Basins. The planning has scientifically assigned the flood control protection zone, floodplain zone, and flood storage and detention zone, formulated flood control strategies, tasks and overall layout for main river basins.



Integrated Planning of Seven Basins. The planning has formulated four systematic goals and tasks for future 10-20 years, including basin flood control and disaster reduction, water resources allocation, water resources protection and integrated management, highlighted the guidance and restraints of planning, and made a series of controlling indicators.



Key specialized planning. Focus on the key areas and weakness of water conservancy reform development, compile and implement a batch of specialized planning.

#### Guarantee of flood safety

- National rivers and reservoirs in dangerremoving and reinforcement, and comprehensive control of mountain torrents geological disaster prevention planning
- Construction and management of national flood planning
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#### Ensure of water supply safety

- Rural drinking water safety project "Twelve-Five plan"
- National safe drinking water source protection planning
- The large-scale irrigation and water saving reform of the "Eleven-Five" plan
- National drought plan
- South five provinces (autonomous regions and municipalities key Water source project construction plan

#### Protection of ecological security

- The Tarim River comprehensive River basin planning
- Heihe River basin management planning
- Shiyang River basin management planning
- Comprehensive planning of water resources reasonable utilization and ecological protection
- capital water resources sustainable use plan in early 21st century
- National comprehensive improvement of soil and water loss of slope farmland project planning

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## **3. Recent Research Results**

#### **3.1 Principles**

**People oriented, livelihood as priority.** Make efforts to solve the most concerned, direct and realistic water conservancy problems, and promote the equalization of water conservancy fundamental public services.



Water saving as priority, Circulating Utilization. Promote agricultural, industrial and domestic water saving, construct water saving society, enhance water use efficiency and benefits, accelerate the realization of basic transformation from extensive water use to intensive water saving.



Spatial balance, coordinated development. Stick to the concept of the balance between population economy and resource environment, determine the production and city location based on water, intensify the water demand management, promote the coordination between the eco-social development and water resources & environment carrying capabilities.





Systematic management, protection as priority. Stick to the protection as priority, natural restoration as major, arrange every factor of natural ecology, intensify the protection of water ecology, coordinate and solve the problems of water resources, water environment, water ecology and water hazards.





Both-hand efforts, deepen reformation. Stick to make efforts with both hands of government and market, promote the reformation of key, difficult areas and links, water treatment promote management by law, and give play to the leading role of water conservancy technological innovation.



# 3.2 Recent Result 1: National Medium and long term water supply and demand planning

to the demand of Adapt "synchronizing development of four modernizations" and functional zones. principle deeply analyze the conditions of water supply and demands, forward the bring overall layout and strategic measures for guaranteeing the urban supply safety, water grain water safety and use ecological water supply safety.

#### **21 key economic zones in China**



# 3.2 Recent Result 2: National modern irrigation development planning

Consider as a whole the demands of water and soil resource conditions, grain safety guarantee and ecological environment protection, pinpoint the direction and patterns of irrigation development meanwhile bring up the overall scales and spatial layouts of future irrigation development.



Agricultural Strategic Layout National Irrigation Area Distribution

#### 3.2 Recent Result 3: National Water Resources Conservation Planning

Arrange as a whole water quantity, water quality and water ecology to maintain the river and lake health, realize water resource sustainable utilization and promote the construction of ecological civilization, bring up the overall thoughts, targets and tasks, as well as countermeasures.



#### 3.2 Recent Result 4: National water and soil conservation Planning

Take promoting of human-nature harmony and guaranteeing national ecological safety and sustainable development as purposes, bring about water and soil loss overall prevention goals, and clarify the by region treatment strategy, key treatment tasks and implementation plans.





# National soil erosion conditions

National water and soil conservation regions

#### 3.2 Recent Result 5: Water conservancy 13th five-year-plan planning

Based on the in-depth investigation and full digestion of different opinions, comprehensively summarize and evaluate the implementing situations of 12th five-year-plan of water conservancy development, carefully analyze the conditions that water conservancy reformation will face with. The research also bring about the overall thoughts, development purposes, main tasks, overall layout and strategic measures suggestions of future five-year water conservancy reformation.



#### 3.2 Recent Result 6: Water conservancy specialized planning of Beijing-Tianjin-Hebei synchronized development

Taking water resource and water environment carrying capacity as rigid constraints, water resource high-efficiency circulated utilization as precondition, water resource conservation and water ecology restoration as key issues, comprehensively enhancing guaranteeing capability of water security as purpose, and reformation of basin regional water management system and mechanism as grasps, the planning has scientifically determined the construction purposes and controlling indicators for 2020 and 2030 Beijing-Tianjin-Hebei water conservancy projects construction, brought forward the construction tasks of water saving and water resources allocation, water resources conservation and water ecology restoration, flood control and drainage system, water conservancy management system reformation and mechanism innovation...



## 4. Standards Support

Over the years, with the gradual improvement of water conservancy planning systems, and prominent effects of water conservancy planning standardized work, a batch of water conservancy standards have formulated, and strongly supported water conservancy planning compiling in different levels, the fundamental and strategic functions of water conservancy standardization have prominently enhanced in the business capability construction and water conservancy reformation development.



## 4. Standards Support

According to the "Current technical standards for Water conservancy and hydropower investigation and design (5th edition)", more than 20 standards for water conservancy planning, including many areas like hydrology, flood control and draughts prevention, water resources, farmland irrigation, water eco-environment, water and soil conservation and hydropower.

中水协秘〔2016〕8 号

现行技术标准名录(第五版)的通知

2.2	水资源-6			
37	68/751051-2014	水资源规划规范	2015-8-1	水利水电现行
38	68/138284-2012	节水型社会评价指标体系和评价方法	2012~8~1	木彩水电现行
39	SL/7238-1999	水街蹲还价等照	1999-8-15	水料现行
40.	SL322-2013	建设项目水资源论证券照	2014-3-5	水料现行
ш	SL627-2014	城市供本水面规划导则	2014-4-20	水彩現行
42	68/125175-2010	水域纳河能力计算规程	2011-1-1	水和水电现行
3 規	届与经济评价-17			
3.1	賬划-14		2000/00/2010 A	an ann an thair
-43	SL201-2015	江河流域规划编制规范	2015-1-5	水和現行
44	DL/T5042-2010	河流水电规划编制成范	2010-12-15	水电现行
-45 -	SL424-2008	早情等级标准	2009-3-29	水和现行
16	GB/T50509-2009	庸容成結姻茁	2009-12-1	水和水电现行
47	GB/T50587-2010	水库调度设计展览	2010-12-1	水积水电现行
10	SL596-2012	洪水靖度方案编制导组	2012-12-19	水和现行
49	SL318-2011	水利血防技术展苗	2011-10-12	水和現行
50	DL/T5105-1999	水电工程水利计算线茜	2000-7-1	水电现行

# 4. Standards Support

Hydrology	<ul> <li>Technical Regulations for Hydrologic Network Design, Regulation for hydrologic computation of water resources and hydropower projects</li> </ul>	
Flood control and draughts prevention	•Standard for flood control, Code for formulation of flood mitigation planning	
Water resources	<ul> <li>National Water Resources Zones, The standards of water resources survey and assessment, Water resources planning standard</li> </ul>	
Farmland irrigation	•Code for irrigation areas programming, Planning guide agricultural water engineering	
Water eco- environment	•Code of practice for computation on allowable permitted assimilative capacity of water bodies, Regulation for environmental impact assessment of river basin planning	
Water and soil conservation	•Code of practice worked out of soil and water conservation planning	
Hydropower	<ul> <li>Specification on compiling hydropower planning of river, Specification on compiling hydropower development planning of medium and small rivers</li> </ul>	

Thanks!